# Detection of epidermal growth factor receptor mutations in formalin fixed paraffin embedded biopsies in Malaysian non-small cell lung cancer patients

## ABSTRACT

Background: Somatic mutations of the epidermal growth factor receptor (EGFR) are reportedly associated with various responses in non-small cell lung cancer (NSCLC) patients receiving the anti-EGFR agents. Detection of the mutation therefore plays an important role in therapeutic decision making. The aim of this study was to detect EGFR mutations in formalin fixed paraffin embedded (FFPE) samples using both Scorpion ARMS and high resolution melt (HRM) assay, and to compare the sensitivity of these methods. Results: All of the mutations were found in adenocarcinoma, except one that was in squamous cell carcinoma. The mutation rate was 45.7% (221/484). Complex mutations were also observed, wherein 8 tumours carried 2 mutations and 1 tumour carried 3 mutations. Conclusions: Both methods detected EGFR mutations in FFPE samples. HRM assays gave more EGFR positive results compared to Scorpion ARMS.

**Keyword:** EGFR; Scorpion ARMS; HRM